SONY

3-751-628-22 (1)

Handycam Marine Pack

MPK-TR

Operating Instructions page 2

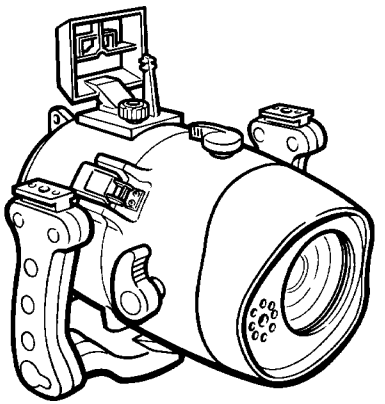
Before operating the unit, please read this manual thoroughly and retain it for future reference.

Mode d'emploi page 16

Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.

Manual de instrucciones página 30

Antes de utilizar la unidad, lea este manual detenidamente y consérvelo para futuras referencias.



Handycam

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English

INFORMATION

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

Reorient the receiving antenna
Relocate the equipment with respect to the receiver
Move the equipment away from the receiver
Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communications Commission helpful:
"How to Identify and Resolve Radio-TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington, DC 20402, Stock No. 004-000-00345-4.

For the customers in Canada

This apparatus complies with the Class B limits for radio noise emissions set out in Radio Interference Regulations.

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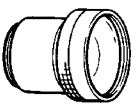
Features

This marine pack allows an 8 mm video camera recorder listed below to be used underwater.

Countries	Compatible model
U.S.A. and Canada	CCD-TR5/7/4
Other countries	CCD-TR55E/75E/45E

- Usable at a depth of 40 meters (132 feet)
- One-hand operation under water. Once the focus and white balance are set on land, power on/off and recording start/stop are the only operations to be done underwater.

Using the wide conversion lens (not supplied), you can enjoy recording with a wider angle.
Wide conversion lens VCL-0637 (magnifying power × 0.6)



Precautions

On video camera recorder

Be careful not to expose the equipment to salty air nor to drip sea water on the equipment.

- Avoid opening the marine pack on the sea or at the seaside. Preparations such as installing and checking the equipment should be made in a place with low humidity and no salty air.
- When a video camera recorder and a monitor TV are to be used on the sea or at the seaside for a long period of time, we recommend that they are checked periodically by a Sony service facility.
- If the equipment becomes wet, take it immediately to the nearest Sony service facility for preventive maintenance.

On the marine pack

- If the marine pack is put in the water after being opened and jointed in a place with high temperature and high humidity, moisture condensation may occur, causing the glass to fog up and perhaps damaging the equipment.
- The waterproof integrity of the marine pack is maintained by the O-rings, and the grooves and surfaces where they touch. Be especially careful not to damage or deform those areas.
- Before jointing the marine pack, check these areas to see that there are no cracks, dust, sand, hair, etc., and that the O-rings are lightly greased.
- Do not leave the marine pack under direct sunlight for a long period of time, otherwise the temperature in the pack may rise and the equipment in the pack may be damaged.
- If you cannot avoid leaving the marine pack under direct sunlight, be sure to cover the pack with a towel or other protection.
- Do not throw the marine pack into the water. Lower it gently into the water.

On recording underwater

- We recommend you to check before diving that the equipment operates correctly and there is no water leakage at a depth of about one meter (3 feet).
- Be sure to follow the safety rules for diving such as diving period, depth, etc.

When opening the marine pack

To prevent the video camera recorder from getting wet, take care on the following points.

- Dry the marine pack well.
- Soak up any water between the front and rear bodies with a towel.
- Make sure you are dry. Take care that no water drops from your wet suit or dry suit.

On transportation

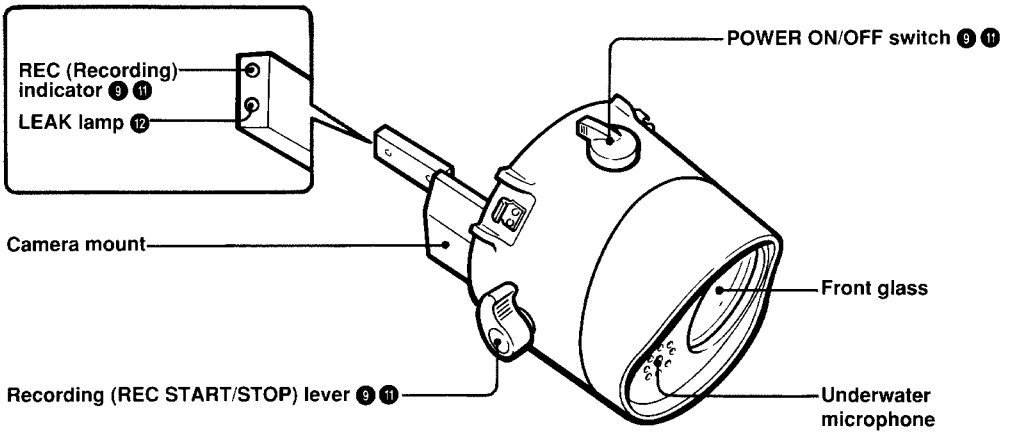
- To transport the marine pack for a long distance, remove the video camera recorder, or it may be damaged.
- To move the marine pack by car with the video camera recorder in position, use cushioning so that shocks or vibration are avoided as much as possible. Be sure to secure the pack firmly so it will not turn over.
- To transport the marine pack by air or by car, repack it in the original shipping carton with the associated packing material.
- We recommend you to use the Sony LCH-M20 marine pack carrying case (not supplied) for safe transport of the marine pack.

Sony does not accept liability for damage to the video camera recorder, battery, etc. in the marine pack and for the cost of recording if water leakage occurs caused by incorrect operation.

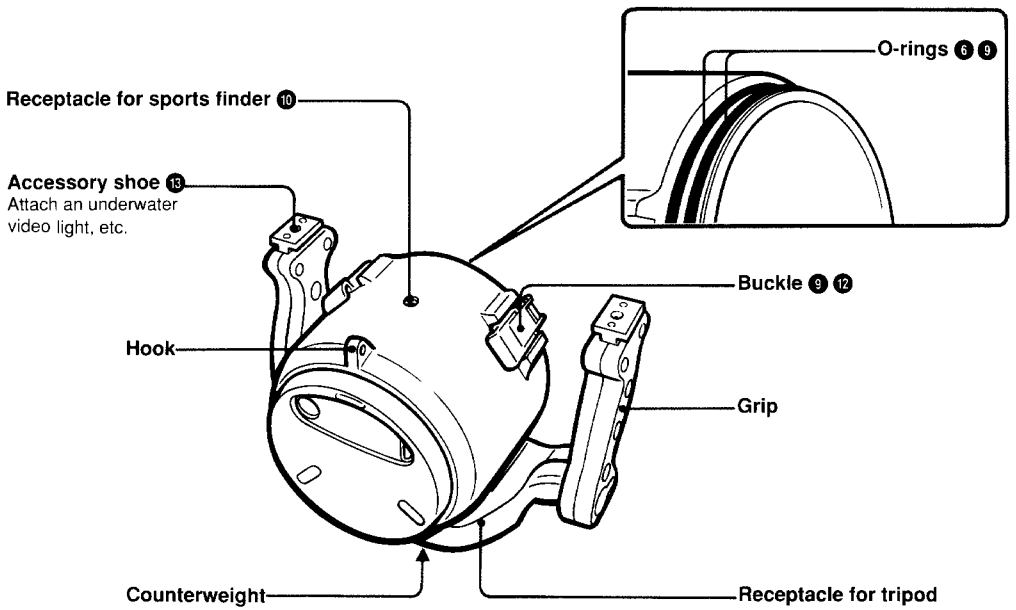
Parts Identification

For further details, refer to the page numbers next to each item.

Front body

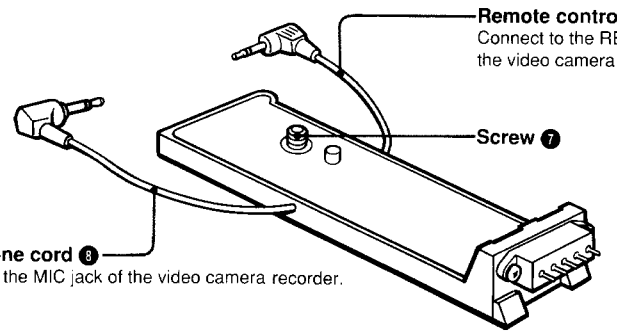


Rear body

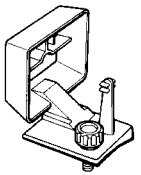


Accessories supplied

Pedestal (1)

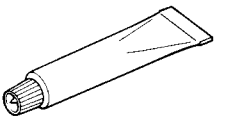

Remote control cord ❽
Connect to the REMOTE jack of the video camera recorder.
Screw ❼
Microphone cord ❽
Connect to the MIC jack of the video camera recorder.

Sports finder (1) ❿



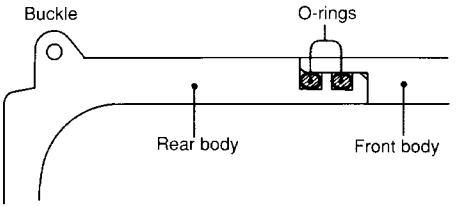
O-ring (black) **(2) ❻**

Grease (1) ❻



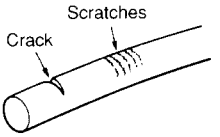
Notes on the O-rings

The O-rings assure the waterproof function of the marine pack. To maintain waterproof integrity, use them correctly. Incorrect operation may cause water to leak in.



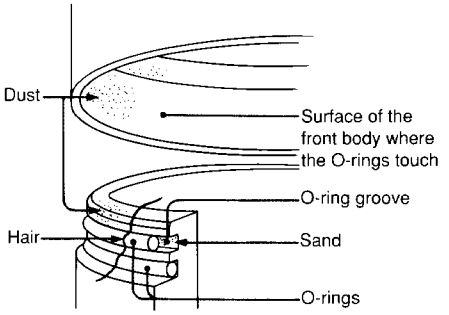
Check that there are no scratches or cracks.

Scratches or cracks on the O-rings may cause water to leak in. If there are any, replace the damaged O-ring with a new one.
Do not remove the O-rings from the grooves with a metal tool or a tool with a sharp point.



Remove any dust, sand or hair from the O-rings.

Check there is no dust, sand or hair on the O-rings in the grooves or on the surface where they touch. If there is, remove them completely, or the O-rings and the surface where they touch may be damaged and water may leak in.



Grease the O-rings.

The grease protects the O-rings.
After checking that there are no cracks or dust on the O-rings, grease them using a finger. During greasing, recheck that there are no cracks or dust.
Never use cloth or paper for greasing because the fibers may cling.

Do not twist the O-rings.

Put the O-rings in the grooves evenly. Never twist them.

Do not trap the O-rings with the marine pack.

When jointing the marine pack, be careful not to trap the O-rings between the front and rear bodies. If this happens, not only will the O-rings be damaged, but also water may leak in.

Storage

Store the supplied spare O-rings in a cool place, packed in the original carton. Be sure to avoid the following:

- Exposing to direct sunlight.
- Placing a heavy object on the O-rings.
- Folding the O-rings.

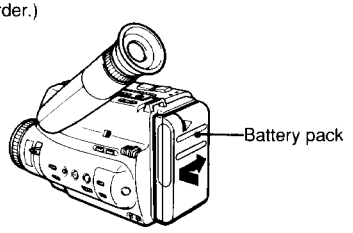
Life of the O-rings

It depends upon the maintenance and the length of use, but we recommend changing them every one or two years.
Use ACC-805 marine pack maintenance kit (not supplied) to replace.

Installing the Video Camera Recorder in the Marine Pack

1 **Charge a battery pack and install it to the video camera recorder.**

Use an NP-77H, NP-77, NP-66H or NP-55 battery pack (not supplied).
(Refer to the instruction manual of the video camera recorder.)

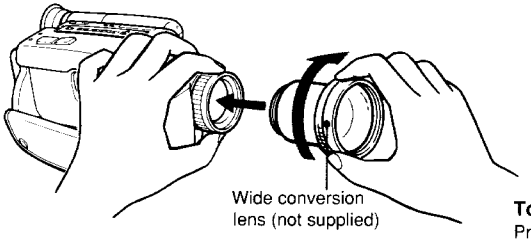


Note

When the battery becomes weak, replace the battery pack with the fully charged one. The exhausted battery may result in incorrect operation of the marine pack.

2 **Attach the wide convesion lens (not supplied).**

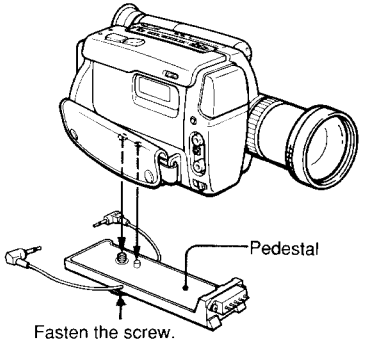
By attaching the wide conversion lens, the shooting coverage becomes wider, although the subject is shot smaller at 60 percent.
Remove the lens cap from the video camera recorder and keep it in a safe place.
Remove a filter, such as a protector, if it is in use.



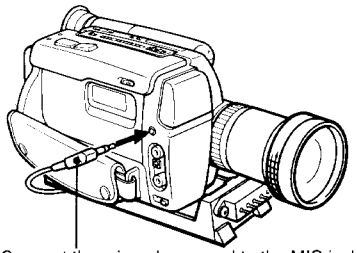
To remove a filter

Press a filter with your palm and turn it counterclockwise while holding the focus ring.

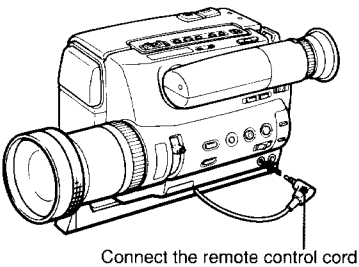
3 **Attach the video camera recorder on the pedestal.**



4 Connect the microphone and remote control cords to the video camera recorder.

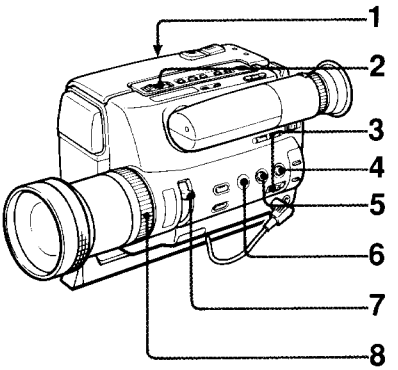


Connect the microphone cord to the MIC jack.



Connect the remote control cord to the REMOTE jack.

5 Preset the video camera recorder.



1 Insert a cassette.

2 Set the POWER switch to CAMERA.

3 Set the AUTO LOCK switch to the right position (to release AUTO LOCK).

4 Press the FOCUS button to select the manual mode (■).

5 Adjust the white balance (WHT BAL) button*.

6 Set the SHUTTER SPEED button at 1/60 seconds (normal speed).

7 Set the zoom lever to the position of 11 mm.

When using CCD-TR4/TR45E, set the zoom lever to the wide angle position.

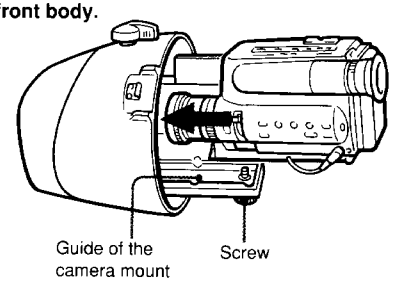
8 Set the focus ring to 2 m.

* **White balance**

Normally set WHT BAL to the outdoor position (•). For a night diving, set WHT BAL to the indoor position (☼).

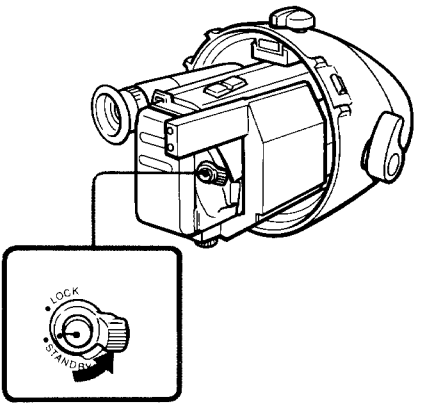
Be sure not to pull out the viewfinder.

6 **Install the video camera recorder in the front body.**

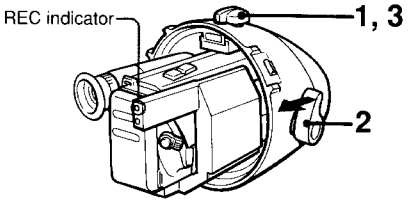


1 Lay the front body.
2 Insert the video camera recorder along the guide until the pedestal is completely inserted into the guide of the camera mount.
3 Fasten the screw.

7 **Set the STANDBY/LOCK lever to STANDBY.**



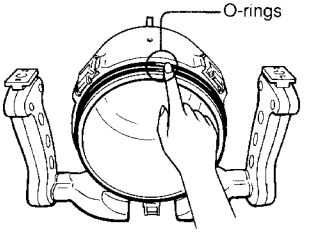
8 **Check that the marine pack operates correctly.**



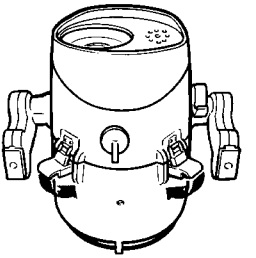
1 Set the POWER ON/OFF switch to ON.
2 Pull the REC START/STOP lever toward you. Be sure to check that the REC indicator lights up.
3 Set the POWER ON/OFF switch to OFF.

9 **Joint the front and rear bodies.**

1 Check that the O-rings are in place and free from dust, etc. and grease them lightly.

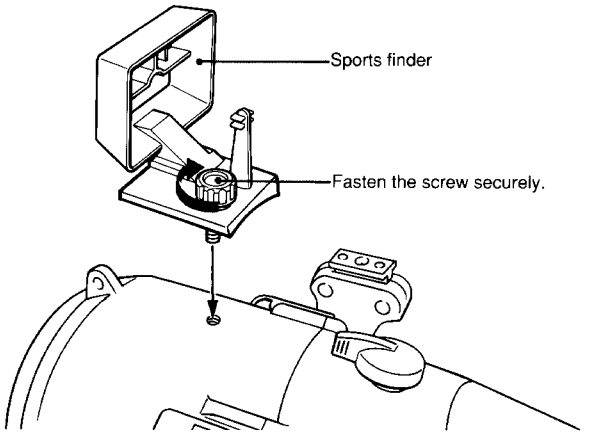


2 Press down the front body to the rear body and fasten the three buckles securely.



10 Attach the sports finder.

The sports finder allows you to estimate the approximate shooting coverage. (See page 11.)



Install the recommended accessories such as an underwater video light or color filter in this step if you use.

The marine pack is now ready for recording.

CAUTION

Turn off the power of the marine pack.

If the power is left on, the battery may be exhausted before recording.

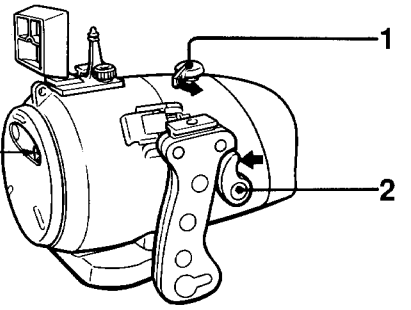
Starting/Stopping Recording

1 **Set the POWER ON/OFF switch to ON.**

2 **Pull the REC START/STOP lever momentarily toward you.**
Recording will start.

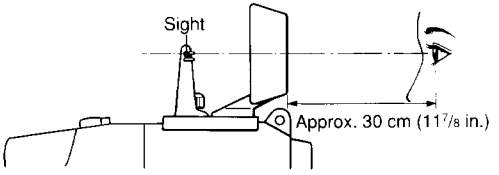
To stop recording, pull the REC START/STOP lever again.
The recorder will enter standby mode.

REC indicator
Lights up in red during recording.

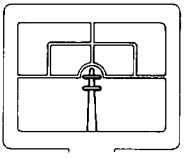
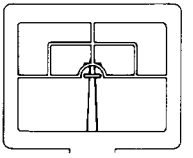


Note If you do not record for a long period of time, set the POWER ON/OFF switch to OFF.

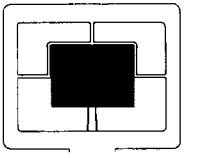
Using the Sports Finder



The scene within the finder frame will be shot.
Observe the subject through the sports finder and align the horizontal bar at the center of the finder with the upper or lower horizontal bar on the sight.

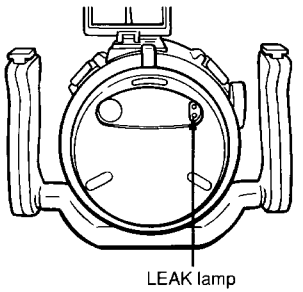
For shooting distance of more than 5 m (16 feet)	For shooting distance of approx. 1 to 2 m (3 to 7 feet)
	
Align with the upper bar of the sight.	Align with the lower bar of the sight.
For shooting distance of 2 to 5 m (7 to 16 feet), set the center bar of the finder between the upper and lower bars on the sight.	

When the wide conversion lens (not supplied) is not attached
The scene within the inner frame on the sports finder will be shot.



When the LEAK Lamp Blinks

If water happens to leak in, the LEAK lamp (yellow) blinks.



In such a case, remove the marine pack from the water as soon as possible, keeping it horizontal.
Be sure to surface following the safety rules for diving.
After drying with a soft cloth, open the marine pack.
To switch off the lamp, disconnect the remote control cord.
Check the cause of the leakage. If the video camera recorder is wet, take it to the nearest Sony service facility immediately.

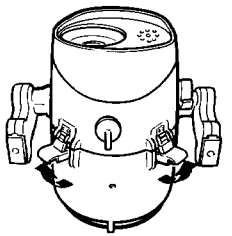
Removing the Video Camera Recorder

Before unfastening the buckles

- Remove the accessories from the marine pack.
- Wash the marine pack with fresh water and dry it with a soft cloth. (See page 3.)

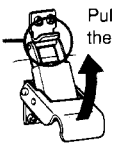
1 Open the marine pack.

1 Unfasten the three buckles.



2 Remove the front body from the rear body.

While setting the end of a buckle to the rear of the catch,

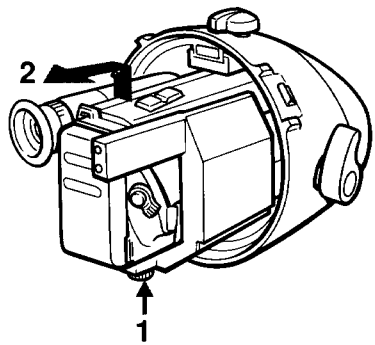


Pull the buckle plate in the direction of arrow.

2 Remove the video camera recorder from the front body.

1 Loosen the screw.

2 Lift the video camera recorder and pull it out of the front body.



Underwater Recording

Recording underwater is different from recording on land because it is affected by the clarity and depth of the water and the light conditions. The following are hints for good recording underwater.

Color Characteristics Underwater

Water absorbs light, especially red light, so that objects in deep water are seen as bluish. The color of objects is affected by the clarity of the water.
To record in natural color, use the Sony VF-77 color filter (not supplied).

Best Time for Recording

The best recording time is from 10 a.m. to 2 p.m. When the sun is high in the sky, optimum results can be obtained.
To record at night, use an additional powerful underwater video light.

Subject Size Underwater

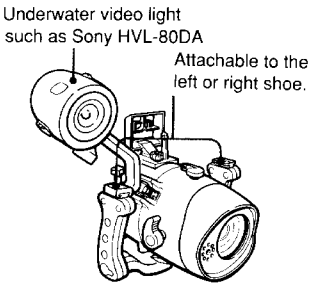
Since the refractive index underwater is higher than that in air, an object is visible by 1/4 more closely, and therefore larger. This phenomenon affects the lens on the video camera recorder as well as the human eye. Using a lens with a wide angle of field is effective underwater. This is why a wide conversion lens (not supplied) is recommended.

Camera Work in Slow and Stable Motion

When recording, keep your body stable.
An unstable shot will be magnified on the TV screen.
Move the video camera recorder as slowly as possible.
As most of the objects underwater move, you can record a good program without moving the recorder.

Underwater Video Light

In a deep place or under rocks where direct sunlight does not reach, recording with the underwater video light is recommended.



Maintenance

After recording

After recording in the sea, submerge the marine pack with the buckles fastened thoroughly in fresh water for a while to remove the sea water. Then wash it with fresh water and dry it with a soft cloth. Clean the video camera recorder and the inside of the pack with a dry soft cloth.
Do not use any type of solvent, such as alcohol or benzine for cleaning, as this might damage the finish. Be sure to perform the above procedure every time the marine pack is used in the sea.
If the sea water remains on the marine pack, the metal parts may get rusty or the operation lever becomes hard to move.

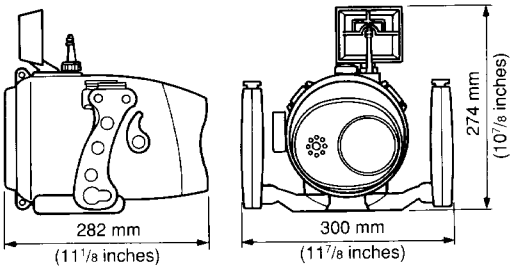
When storing the marine pack

Grease the O-rings, put them in the grooves correctly and put the transport cover. Close the pack without fastening the buckles and place it in a cool place.
Avoid storing the marine pack in a hot or very cold place, in a place subject to direct sunlight or excessive dust, or together with naphthalene or camphor. This will damage the marine pack.

Specifications

Compatible equipment
See page 2.
Material Plastic (ABS and PC), glass
Waterproofing 2 O-rings, 3 buckles
Usable depth Up to 40 meters (132 feet)
Power sources One battery pack NP-77, NP-77H, NP-66H or NP-55
Underwater microphone
Piezoelectric microphone
Controllable function
Power on/off, recording start/stop

Dimensions Unit: mm (inch)



Weight Approx. 5.5 kg (12 lb 2 oz)
Accessories supplied
Pedestal (1)
Sports finder (1)
O-ring (2)
Grease (1)
Recommended accessories

Wide conversion lens	VCL-0637
Marine pack carrying case	LCH-M20
Color filter	VF-77
Underwater video light	HVL-80DA
Maintenance kit	ACC-805

Design and specifications subject to change without notice.

Prerecording Checklist

To make sure that you do not miss golden shooting opportunities, go over the following checklist before recording.

Item	Checkpoints
Battery pack	• Fully charged. (See page 7.)
Video cassette tape	• A cassette is inserted. (See page 8.) • Tape length will cover the planned recording time. • The tape is wound to the point where recording is to begin. • The safety tab on the cassette is in the correct position. (The window is not red.)
Microphone cord, remote control cord	• Firmly connected to the respective jack on the video camera recorder. (See page 8.)
Focus	• Set to the manual mode. • Focus ring is set at 2 m. (See page 8.)
Zoom lever	• Set to the position of 11 mm. (See page 8.)
POWER switch of the video camera recorder	• Set to CAMERA. (See page 8.)
WHT BAL button	• Correctly set. (See page 8.)
O-rings	• No scratches or cracks • No dust, sand or hair around them • Correctly set in the grooves. (See page 9.)
Buckles	• Correctly fastened. (See page 9.)
Sports finder	• The screw is firmly tightened. (See page 10.)